

REMARKS

Claims 1-10 are pending in the application. New claims 11-16 have been added by this amendment. Therefore, claims 1-16 are at issue.

Claim 1 has been amended to more clearly recite the invention, i.e., an open-celled foam having a surfactant applied to a surface of the foam. See Example 3 of page 15, lines 20-27 of the specification, and the specification, page 14, line 47 for use of the term "applied". Claim 1 also was amended to delete treatment of a foam surface with a finely divided silicon dioxide. Claim 5 has been similarly amended to delete the silicon dioxide treatment. The optional silicon dioxide treatment is recited in amended claim 4 and amended claim 7. Claims 5 and 8 have been amended to delete the term "hydrogel", which lacks antecedent basis in claim 1.

New product-by-process claims 11-16 are supported by the specification at page 4, line 19 through page 5, line 12. These claims clearly recite the formation of an open-celled foam, *followed by* a surfactant treatment, together with an optional postcrosslinking operation either prior to or after the surfactant treatment.

The present invention therefore is directed to water-absorbent hydrogel foams having improved liquid acquisition properties compared to prior hydrogel foams, for example as disclosed in WO 99/44648 and WO 00/52087. The improved liquid acquisition properties are attributed to treating a surface of an *already formed* hydrogel foam with a surfactant. This surfactant treatment is in addition to a surfactant that may be present during preparation of hydrogel foam, and the surfactant is applied in a sufficient amount to reduce the liquid acquisition time of the hydrogel foam.

Claims 1-10 stand rejected under 35 U.S.C. §102(b) as being anticipated by WO 99/44648 (WO '648). For convenience, in addressing this rejection, applicants will refer to U.S. Patent No. 6,455,600 ('600), which corresponds to WO '648.

The basis of the rejection is that the '600 patent discloses an open-celled foam comprising acrylic acid, as set forth in the Examples of the '600 patent. Further, the foam is

prepared in the presence of a surfactant, and the foam can be treated with a silicon dioxide. Applicants traverse this rejection.

With respect to a rejection under 35 U.S.C. §102(b), MPEP §2131 states:

"TO ANTICIPATE A CLAIM, THE REFERENCE MUST
TEACH EVERY ELEMENT OF THE CLAIM

'A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.' *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)... 'The identical invention must be shown in as complete detail as is contained in the...claim.' *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990)."

For the reasons set forth herein, it is submitted that WO '648 fails to anticipate the present claims 1-16 under 35 U.S.C. §102(b), and that claims 1-16 would not have been obvious over WO '648 under 35 U.S.C. §103.

The corresponding '600 patent teaches the preparation of an expanded hydrogel by polymerizing a foamed mixture containing monoethylenically unsaturated acidic monomers in the presence of a surfactant. See '600 patent, abstract and column 3, lines 19-60. The '600 patent teaches that the surfactant is "crucial for the production and stabilization of the foam" (column 9, lines 9-10). No other use is disclosed or suggested for the surfactant. See '600 patent, column 9, line 7 through column 10, line 16.

The examiner's attention also is directed to Examples 1-11 and Comparative Examples 1-3 of the '600 patent, *none* of which apply an *additional* amount of surfactant to a surface of the hydrogel foam *after* preparation of the foam. The most that the '600 patent discloses is the application of a fine powder to the hydrogel foam to reduce tackiness (column 17, lines 5-20). Accordingly, a difference exists between the present claims and the '600 patent disclosure.

For the reasons set forth the above, it is submitted that the present claims cannot be anticipated under 35 U.S.C. §102(b) because at least one difference exists between the present claims and the disclosure of the '600 patent. It also is submitted that the present claims would not have been obvious over the '600 patent in view of the substantiality of the difference between the present claims and the '600 patent disclosure, and because of the unexpected results demonstrated by a hydrogel foam of the present invention. The nonobviousness of the present claims over WO '648 is discussed below in conjunction with reasoning why the present claims would not have been obvious over WO '087.

Claims 1-10 stand rejected under 35 U.S.C. §102(b) as being anticipated by WO 00/52087 (WO '087). For convenience, in addressing this rejection, applicants will refer to U.S. Patent No. 6,750,262 ('262), which corresponds to WO '087.

The basis of the rejection is that the '262 patent discloses an open-celled foam comprising acrylic acid, as set forth in the Examples of the '262 patent. Further, the foam is prepared in the presence of a surfactant and the foam can be treated with a silicon dioxide. Applicants traverse this rejection.

The '262 patent is similar to the '600 patent in teaching preparation of a hydrogel foam from acidic monoethylenically unsaturated monomers, in the presence of a surfactant, followed by an optional treatment with a silicon dioxide (see column 4, lines 46-47). Like the '600 patent, the '262 patent fails to teach or suggest the application of a surfactant *to the* hydrogel foam *after* preparation of the foam. The reason for an addition of a surfactant to the monomer mixture is identical to that disclosed in the '600 patent (see '262 patent, column 9, lines 23-24), and no other use is disclosed for the surfactant. More importantly, *no* additional treatment of a surfactant on a surface of the hydrogel foam surface is taught or disclosed in the '262 patent.

No example or comparative example of the '262 patent teaches or suggests the application of a surfactant to the formed hydrogel foam. This is in contrast to Example 2 of the '262 patent, for example, which discloses dusting of the hydrogel foam with talc (column 20, lines 46-47) for the purpose of reducing tackiness, as recognized by the examiner and disclosed at column 17, lines 47-60 of the '262 patent.

For the reasons set forth for the above, it is submitted that the present claims cannot be anticipated by WO '087 under 35 U.S.C. §102(b) because a difference exists between the present claims and the disclosure of WO '087. Accordingly, the rejection of claims 1-10 as being anticipated by WO '087 should be withdrawn. It also is submitted the new claims 11-16 are not anticipated by WO '087. In addition, the difference between the present claims and WO '087 is a nonobvious difference such that an obviousness rejection under 35 U.S.C. §103 over WO '087, or over the WO '648, cannot be maintained.

The establishment of a *prima facie* case of obviousness is set forth in the MPEP §2143 stating:

"2143 Basic Requirements of a *Prima Facie* Case of Obviousness

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

To establish a *prima facie* case of obviousness, *all three* requirements recited in MPEP §2143 must be satisfied: (1) the prior art reference or combination of references must teach or suggest *all the limitations* of the claims to those of ordinary skill in the art. See *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970) ("All words in a claim must be considered in judging the patentability of that claim against the prior art."); (2) the prior art relied upon must contain some suggestion or incentive, coupled with knowledge generally available in the art at the time of the invention, that would have motivated those of ordinary skill in the art to modify a reference or combine the references. See, *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1385, 58 USPQ2d 1286, 1293 (Fed. Cir. 2001) ("in holding an invention obvious in view of a combination of references, there must be some

suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in a way that would produce the claimed invention."); *and* (3) the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made.

To reach a proper determination under 35 U.S.C. § 103(a), the examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" when the invention was unknown and just before it was made. In view of all factual information, the examiner must then make a determination whether the claimed invention "as a whole" would have been obvious at that time to that person. Knowledge of applicants' disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the "differences," conduct the search, and evaluate the "subject matter as a whole" of the invention. The tendency to resort to "hindsight" based upon applicants' disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the *facts* gleaned from the prior art. MPEP § 2142.

The "suggestion or motivation" criterion has been addressed by the Supreme Court in the recent *KSR Int'l Co. v. Teleflex*, ---U.S.---, No. 04-1350 (U.S. Apr. 30, 2007) decision. The mandate of the United States Supreme Court in this decision is that the Patent Office must make it clear in the record that the teaching-suggestion-motivation to modify the reference exists. The *KSR* decision also was the subject of a May 3, 2007 memorandum from the Deputy Commissioner for Patent Operations, which stated that the four factual inquiries of *Graham* were reaffirmed by the Court and that although the Court rejected a rigid application of the "teaching, suggestion, or motivation" test, the Court *did not* totally reject the "teaching, suggestion, or motivation" test. In discussing the *KSR* decision, the May 3, 2007 memorandum further stated at page 2 (emphasis in original):

"The Court specifically stated:

Often, it will be necessary...to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the

marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an **apparent reason** to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis **should be made explicit**.

KSR, slip op. at 14 (emphasis added).

Therefore, in formulating a rejection under 35 U.S.C. § 103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed."

It is submitted that neither the '600 patent nor the '262 patent renders the present claims obvious. First, neither cited reference discloses *all* the claimed features. Second, the references provide no reasonable expectation of success from the claimed features. Third, the presently claimed invention exhibits unexpected benefits.

First, neither the '262 nor the '600 patent teaches or suggests application of a surfactant to a surface of a hydrogel foam *after* preparation of a hydrogel foam. The cited references teach that a surfactant is essential as an ingredient of the monomer mixture prior to preparation of the foam. The references however do *not* teach or suggest a post-polymerization application of a surfactant to the foam. Accordingly, the references do not teach or suggest *all* features recited in the claims, and, a rejection of the claims under 35 U.S.C. §103 over the '600 patent or the '262 patent cannot be asserted.

Second, neither the '600 patent nor the '262 patent provides an incentive for a person skilled in the art to apply a surfactant to a hydrogel foam with a reasonable expectation of providing *any* beneficial result. Each reference teaches application of a powdered material to the hydrogel foam *after* polymerization to reduce tackiness. However, surfactants are well known "tacky" materials. Therefore, persons skilled in the art would have had no reasonable expectation of reducing tackiness as disclosed in the '600 and '262 patents by applying a surfactant to surfaces of a hydrogel foam, as presently claimed.

Furthermore, as set forth in the *KSR* decision, a person skilled in the art would have had *no apparent reason* to apply a surfactant to an already formed hydrogel foam. Surfactants are tacky materials, and tackiness is a property of the hydrogel foams that the references teach to avoid. The references fail to teach or suggest the application of any other types of agents to surfaces of the hydrogel foams. So why would a person skilled in the art have any apparent reason to apply a tacky material to surfaces of a hydrogel foam, when *both* references teach that a reduction of tackiness is desired.

It is submitted that a person skilled in the art, having *common sense* at the time the invention was made, would not have reasonably considered applying a surfactant to a hydrogel foam after considering the '600 patent, the '262 patent, or both, thus providing an additional reason why present claims 1-16 would not have been obvious over the '600 patent, the '262 patent, or a combination thereof.

Third, the present invention demonstrates new and unexpected benefits over the '600 and '262 patents. As stated above, a person skilled in the art would have had no incentive to apply a surfactant to a surface of a hydrogel foam because such an application would increase tackiness. Therefore, the cited references teach *away* from applying a surfactant to a surface of a hydrogel foam.

In addition, the examiner is directed to Example 1 of the '262 patent and to the present specification, Example 1, at page 14, line 10 through page 15, line 10. Example 1 of the '262 patent is *identical* to Example 1 of the present invention, up to the application of an amorphous silica in present Example 1. The present specification, in Example 3, applies a surfactant to surfaces of the hydrogel foam rather than an amorphous silica. The table at page 15 of the present specification shows decrease of time for droplet acquisition from 1.5 seconds for an *untreated* foam (as in Example 1 of the '262 patent) down to 1 second for a foam treated with surfactant (Example 3), i.e., a decrease in acquisition time of about 33%. Such a result is neither taught nor suggested by either cited reference, and is unexpected in view of the '600 and '262 patent disclosures. This result also demonstrates a difference between the presently claimed hydrogel foams and those of the '600 and '262 patents, further showing that an anticipation rejection under 35 U.S.C. §102(b) over WO '648 and WO '087 cannot be maintained.

Accordingly, for all the reasons set forth above, it is submitted that present claims 1-16 would not have been obvious under 35 U.S.C. §103 over WO '648, WO '087, or a combination thereof.

It is submitted that all pending claims are in a form and scope for allowance. An early and favorable action on the merits is respectfully requested.

Should the examiner wish to discuss the foregoing, or any matter in form in an effort to advance this application toward allowance, the examiner is urged to telephone the undersigned at the indicated number.

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Respectfully submitted,

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